

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claims 1-9 (canceled).

10. (new): An automatic programming method of selecting workpiece data from a workpiece database in which a material, a shape, and a dimension of a workpiece are registered, creating a workpiece model for lathe turning based on the selected workpiece data, and creating a program for controlling a numerical control device based on a product model for lathe turning and the created workpiece model, the automatic programming method comprising:

workpiece selecting including

selecting workpiece data involving a product shape and having a smallest diameter for lathe turning around a turning axis from the workpiece database, by comparing dimension data of the workpiece model with dimension data of the product model in a state in which the product model is arranged on the turning axis and the workpiece model is arranged so that a center axis of each workpiece matches a center of the turning axis; and

selecting, when there is a plurality of workpiece data involving the product shape and having the smallest diameter for lathe turning around the turning axis, workpiece data having a length equal to or longer than the product shape and a shortest length; and

creating the workpiece model for lathe turning based on the selected workpiece data.

11. (new): The automatic programming method according to claim 10, wherein

- a shape of the workpiece is a round bar, and
- the workpiece selecting further includes
- obtaining a longest distance between the turning axis and a fringe area of the product model; and
- selecting a round-bar work having a radius equal to or longer than the longest distance and a smallest diameter.
12. (new): The automatic programming method according to claim 10, wherein
- a shape of the workpiece is a polygonal bar, and
- the workpiece selecting further includes
- obtaining respective distances between line segments parallel to respective fringes of the polygonal bar and tangent to the product model and the turning axis;
- obtaining a maximum value from among the obtained distances; and
- selecting a polygonal work model having an opposite side distance equal to or larger than twice of the obtained maximum value and a shortest opposite side distance.
13. (new): The automatic programming method according to claim 10, wherein
- the workpiece selecting further includes
- displaying the workpiece data registered in the workpiece database in a list; and
- highlighting minimum workpiece data from among the workpiece data displayed in the list.

14. (new): The automatic programming method according to claim 10, wherein
the workpiece selecting further includes
displaying workpiece data involving a product shape is in a list from the
workpiece database in an increasing order of cutting amount; and
highlighting minimum workpiece data from among the workpiece data displayed
in the list.

15. (new): A computer-readable recording medium that stores a computer program for
selecting workpiece data from a workpiece database in which a material, a shape, and a
dimension of a workpiece are registered, creating a workpiece model for lathe turning based on
the selected workpiece data, and creating a program for controlling a numerical control device
based on a product model for lathe turning and the created workpiece model, wherein the
computer program causes a computer to execute:

workpiece selecting including
selecting workpiece data involving a product shape and having a smallest
diameter for lathe turning around a turning axis from the workpiece database, by comparing
dimension data of the workpiece model with dimension data of the product model in a state in
which the product model is arranged on the turning axis and the workpiece model is arranged so
that a center axis of each workpiece matches a center of the turning axis; and
selecting, when there is a plurality of workpiece data involving the product shape
and having the smallest diameter for lathe turning around the turning axis, workpiece data having
a length equal to or longer than the product shape and a shortest length; and

creating the workpiece model for lathe turning based on the selected workpiece data

16. (new): An automatic programming apparatus for selecting workpiece data from a workpiece database in which a material, a shape, and a dimension of a workpiece are registered, creating a workpiece model for lathe turning based on the selected workpiece data, and creating a program for controlling a numerical control device based on a product model for lathe turning and the created workpiece model, the automatic programming apparatus comprising:

a workpiece selecting unit that selects workpiece data involving a product shape and having a smallest diameter for lathe turning around a turning axis from the workpiece database, by comparing dimension data of the workpiece model with dimension data of the product model in a state in which the product model is arranged on the turning axis and the workpiece model is arranged so that a center axis of each workpiece matches a center of the turning axis, and when there is a plurality of workpiece data involving the product shape and having the smallest diameter for lathe turning around the turning axis, selects workpiece data having a length equal to or longer than the product shape and a shortest length; and

a workpiece-model creating unit that creates the workpiece model for lathe turning based on the selected workpiece data.

17. (new): The automatic programming apparatus according to claim 16, wherein

a shape of the workpiece is a round bar, and
the workpiece selecting unit obtains a longest distance between the turning axis and a fringe area of the product model, and selects a round-bar work having a radius equal to or longer

than the longest distance and a smallest diameter.

18. (new): The automatic programming apparatus according to claim 16, wherein
a shape of the workpiece is a polygonal bar, and
the workpiece selecting unit obtains respective distances between line segments parallel
to respective fringes of the polygonal bar and tangent to the product model and the turning axis,
obtains a maximum value from among the obtained distances, and selects a polygonal work
model having an opposite side distance equal to or larger than twice of the obtained maximum
value and a shortest opposite side distance.

19. (new): The automatic programming apparatus according to claim 16, wherein
the workpiece selecting unit displays the workpiece data registered in the workpiece
database in a list, and highlights minimum workpiece data from among the workpiece data
displayed in the list.

20. (new): The automatic programming apparatus according to claim 16, wherein
the workpiece selecting unit displays workpiece data involving a product shape is in a list
from the workpiece database in an increasing order of cutting amount, and highlights minimum
workpiece data from among the workpiece data displayed in the list.